**Course: Math 8 CCSS Standard Number(s): 8.EE.4 Day: #17 - 18**

**Unit # and Title:** **Unit One – Expressions and the Number System Block(s)/Period(s): 1 2 3 4 5 6**

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| **Unit Essential Question(s):** | **When would you use the properties of integer exponents?** | | |
| **Learning Target(s)**  **“I can statements”** | **I can represent very large and very small numbers using scientific notation**  **I can choose appropriate units of measure for very large and very small numbers.** | | |
| **Essential Vocabulary** | **Scientific Notation**  **base**  **exponent**  **integer**  **decimal**  **power of ten**  **standard notation** | | |
| **Resources and Materials** | **Teacher** | | **Student** |
| **Displayed Number Line**  **Power Point**  **Interwrite Pad**  **CompuCart**  **Glencoe C3 Lessons: 2-9**  **On Core Lessons: 1-2**  **Math’scool Lesson** [5.7](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/DispForm.aspx?ID=1670)  **Algebra’scool Lesson** [11.2](https://gems.gcsnc.com/lvcontentitems_23/lvcontentitems_23/dispform.aspx?id=1305)  **Holt McDougal Lesson 3-4**  [1-Teacher Notes 5.7.pdf](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/Attachments/1670/1-Teacher%20Notes%205.7.pdf)  [Teacher Notes 11.2.pdf](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/Attachments/1305/Teacher%20Notes%2011.2.pdf) | | **Student Tool kits – to be kept in the classroom. (construction paper)**  **Colored pencils/crayons**  **Scissors** |
| **8 Mathematical Practices:** | | | |
| 1. Make sense of problems and persevere in solving them.  2. Reason abstractly and quantitatively.  3. Construct viable arguments and critique the reasoning of others.  4. Model with mathematics. | | 5. Use appropriate tools strategically.  6. Attend to precision.  7. Look for and make use of structure.  8. Look for and express regularity in repeated reasoning. | |
| **Activating Strategy**  **(Opening Activity)** | **Students will complete WARM UP questions displayed in power point, on the screen. (review questions relating to previous lessons)**  **(Day One of 8.EE.4) Students will create their own number line (on construction paper) to be stored in student toolkit, containing number from -20 to +20. Students will also notate PERFECT SQUARES and CUBES, contained on the number line.** | | |
| **Cognitive Teaching Strategies**  **Me/We/Few/You**  **(TIP-Teacher input**  **SAP-Student actively participates**  **GP – Guided Practice**  **IP-Independent Practice)** | **Day 17 –**  **Students will be given a large number (eg: 1,000,000) and given the Base, Exponent and multiplication symbol, students will determine how to arrange those numbers and symbols in a way that the two expressions are equal.**  **Students will verbally explain their answers.**  **Students will complete OPEN NOTES from the teacher generated power point, containing instruction on how to write numbers in Scientific Notation, including vocabulary and examples and guided practice.**  [1-Lesson Notes 5.7.pdf](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/Attachments/1670/1-Lesson%20Notes%205.7.pdf)  [1-Lesson Notes 5.7.pdf](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/Attachments/1670/1-Lesson%20Notes%205.7.pdf)  [2-Guided Practice 5.7.pdf](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/Attachments/1670/2-Guided%20Practice%205.7.pdf)  [3-Guided Practice 5.7.pdf](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/Attachments/1670/3-Guided%20Practice%205.7.pdf)   |  | | --- | | [Guided Notes 11.2 Key.pdf](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/Attachments/1305/Guided%20Notes%2011.2%20Key.pdf) | | [Guided Notes 11.2.pdf](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/Attachments/1305/Guided%20Notes%2011.2.pdf) | | [Guided Practice 11.2 Key.pdf](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/Attachments/1305/Guided%20Practice%2011.2%20Key.pdf) | | [Guided Practice 11.2.pdf](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/Attachments/1305/Guided%20Practice%2011.2.pdf) |   **Students complete independence practice in small groups or pairs.**  [4-Independent Practice 5.7.pdf](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/Attachments/1670/4-Independent%20Practice%205.7.pdf)  [5-Independent Practice 5.7.pdf](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/Attachments/1670/5-Independent%20Practice%205.7.pdf)   |  | | --- | | [Independent Practice 11.2 Key.pdf](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/Attachments/1305/Independent%20Practice%2011.2%20Key.pdf) | | [Independent Practice 11.2.pdf](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/Attachments/1305/Independent%20Practice%2011.2.pdf) |   **Students will be asked to explain their answers to the rest of the class after independent practice. If time allows, students will be presented with the challenge problems. If not, they will do it as part of the next day’s warm up or independent practice.**    [3-Challenge Problems 5.7.pdf](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/Attachments/1670/3-Challenge%20Problems%205.7.pdf)  [4-Challenge Problems 5.7.pdf](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/Attachments/1670/4-Challenge%20Problems%205.7.pdf) | | |
| **Summarizing Strategy**  **(Closing Activity)** | **Students independently complete a “Ticket Out the Door” containing two or three questions to show understanding of scientific notation.** | | |
| **Assessment/Homework** | **Students will complete 10 assigned scientific notation problems from the additional practice worksheets.**  [5-Additional Practice 5.7.pdf](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/Attachments/1670/5-Additional%20Practice%205.7.pdf)  [6-Additional Practice 5.7.pdf](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/Attachments/1670/6-Additional%20Practice%205.7.pdf)   |  | | --- | | [Additional Practice 11.2 Key.pdf](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/Attachments/1305/Additional%20Practice%2011.2%20Key.pdf) | | [Additional Practice 11.2.pdf](https://gems.gcsnc.com/lvcontentitems_23/lvContentItems_23/Attachments/1305/Additional%20Practice%2011.2.pdf) | | | |
| **Extending/Refining** | **Student workbook**  [Writing Numbers Using Scientific Notation:  Student Logbook and Your Turn - English](http://downloads.hmlt.hmco.com/EdSchool/LMS4Resources/Print/MSC5/DMMSC5-3.2.1.PDF)  [Answer Key - pages 205-206 - English](http://downloads.hmlt.hmco.com/EdSchool/LMS4Resources/Print/MSC5.pdf) | | |